

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1 1. (Currently amended) A method for allocating computer system
2 resources between concurrently executing workloads, comprising:
3 establishing a first resource pool that specifies requirements for each of a
4 plurality of different computer system resources, wherein the plurality of different
5 computer system resources are components of a single computer system, wherein
6 the computer system resources include central processing units and at least one of
7 memory, swap space, network interfaces, and scheduling classes, and wherein
8 establishing the first resource pool involves establishing minimum size and
9 maximum size requirements for a given resource that can be assigned to the first
10 resource pool;
11 allocating the plurality of different computer system resources to one or
12 more resource pools, including the first resource pool, to create a resource
13 allocation, wherein requirements of the first resource pool are satisfied, wherein
14 prior to allocating the plurality of different computer system resources, the method
15 further comprises:
16 verifying that collective requirements of the one or more
17 resource pools can be satisfied, and
18 if the collective requirements cannot be satisfied, signaling
19 an error condition; and
20

21 wherein resources allocated to the first resource pool can change over
22 time;
23 binding a first process to the first resource pool, so that the first process
24 has access to the plurality of different computer system resources allocated to the
25 first resource pool; and
26 storing a representation of the resource allocation to non-volatile storage
27 so that the resource allocation can be reused after a machine failure;
28 wherein a first portion of resources allocated to the first resource pool are
29 for exclusive use of processes bound to the first resource pool and wherein a
30 second portion of resources allocated to the first resource pool are shared by
31 processes bound to other resource pools.

1 2. (Original) The method of claim 1, wherein allocating the plurality of
2 different computer system resources to one or more resource pools involves:
3 partitioning each of the plurality of different computer system resources
4 into one or more partitions, wherein a first partition is associated with a first
5 resource and a second partition is associated with a second resource;
6 allocating the first partition to a single resource pool, so that only
7 processes associated with the single resource pool can access the first partition;
8 and
9 allocating the second partition to multiple resource pools so that processes
10 associated with the multiple resource pools can share the second partition.

1 3 (Canceled).

1 4. (Original) The method of claim 1, wherein establishing the first
2 resource pool involves selecting a file containing a representation of the first
3 resource pool from a plurality of possible files.

1 5 (Canceled).

1 6. (Previously presented) The method of claim 1, wherein storing the
2 representation of the resource allocation involves storing a representation of each
3 of the one or more resource pools along with associated resources.

1 7. (Previously presented) The method of claim 1, wherein storing the
2 representation of the resource allocation involves storing an Extensible Markup
3 Language (XML) representation of the resource allocation.

1 8. (Original) The method of claim 1,
2 wherein the first resource pool is associated with a first project; and
3 wherein the first process is one of a plurality of processes associated with
4 the first project.

1 9 (Canceled).

1 10. (Original) The method of claim 1, further comprising dynamically
2 adjusting the resource allocation during system execution.

1 11 (Canceled).

1 12. (Currently amended) A computer-readable storage medium storing
2 instructions that are executed by a computer to cause the computer to perform a
3 method for allocating computer system resources between concurrently executing
4 workloads, wherein the computer-readable storage medium includes one of a
5 volatile memory, a non-volatile memory, a disk drive, a magnetic tape, a compact
6 disc, a digital versatile disc, and a digital video disc, the method comprising:

7 establishing a first resource pool that specifies requirements for each of a
8 plurality of different computer system resources, wherein the plurality of different
9 computer system resources are components of a single computer system, wherein
10 the computer system resources include central processing units and at least one of
11 memory, swap space, network interfaces, and scheduling classes, and wherein
12 establishing the first resource pool involves establishing minimum size and
13 maximum size requirements for a given resource that can be assigned to the first
14 resource pool;

15 allocating the plurality of different computer system resources to one or
16 more resource pools, including the first resource pool, to create a resource
17 allocation, wherein requirements of the first resource pool are satisfied, wherein
18 prior to allocating the plurality of different computer system resources, the method
19 further comprises:

20 verifying that collective requirements of the one or more
21 resource pools can be satisfied, and
22 if the collective requirements cannot be satisfied, signaling
23 an error condition; and

24 wherein resources allocated to the first resource pool can change over
25 time;

26 binding a first process to the first resource pool, so that the first process
27 has access to the plurality of different computer system resources allocated to the
28 first resource pool; and

29 storing a representation of the resource allocation to non-volatile storage
30 so that the resource allocation can be reused after a machine failure;

31 wherein a first portion of resources allocated to the first resource pool are
32 for exclusive use of processes bound to the first resource pool and wherein a
33 second portion of resources allocated to the first resource pool are shared by
34 processes bound to other resource pools.

1 13. (Original) The computer-readable storage medium of claim 12,
2 wherein allocating the plurality of different computer system resources to one or
3 more resource pools involves:
4 partitioning each of the plurality of different computer system resources
5 into one or more partitions, wherein a first partition is associated with a first
6 resource and a second partition is associated with a second resource;
7 allocating the first partition to a single resource pool, so that only
8 processes associated with the single resource pool can access the first partition;
9 and
10 allocating the second partition to multiple resource pools so that processes
11 associated with the multiple resource pools can share the second partition.

1 14 (Canceled).

1 15. (Original) The computer-readable storage medium of claim 12,
2 wherein establishing the first resource pool involves selecting a file containing a
3 representation of the first resource pool from a plurality of possible files.

1 16 (Canceled).

1 17. (Previously presented) The computer-readable storage medium of
2 claim 12, wherein storing the representation of the resource allocation involves
3 storing a representation of each of the one or more resource pools along with
4 associated resources.

1 18. (Previously presented) The computer-readable storage medium of
2 claim 12, wherein storing the representation of the resource allocation involves

3 storing an Extensible Markup Language (XML) representation of the resource
4 allocation.

1 19. (Original) The computer-readable storage medium of claim 12,
2 wherein the first resource pool is associated with a first project; and
3 wherein the first process is one of a plurality of processes associated with
4 the first project.

1 20 (Canceled).

1 21. (Original) The computer-readable storage medium of claim 12,
2 wherein the method further comprises dynamically adjusting the resource
3 allocation during system execution.

1 22 (Canceled).

1 | 23. (Currently amended) A computer system ~~An apparatus that allocates~~
2 computer system resources between concurrently executing workloads,
3 comprising:
4 an establishment mechanism that is configured to establish a first resource
5 pool that specifies requirements for each of a plurality of different computer
6 system resources, wherein the plurality of different computer system resources are
7 components of a single computer system, wherein the computer system resources
8 include central processing units and at least one of memory, swap space, network
9 interfaces, and scheduling classes, and wherein the establishment mechanism is
10 configured to establish minimum size and maximum size requirements for a given
11 resource that can be assigned to the first resource pool;

12 an allocation mechanism that is configured to allocate the plurality of
13 different computer system resources to one or more resource pools, including the
14 first resource pool, to create a resource allocation, wherein requirements of the
15 first resource pool are satisfied, and wherein resources allocated to the first
16 resource pool can change over time;
17 a verification mechanism that is configured to verify that collective
18 requirements of the one or more resource pools can be satisfied;
19 wherein if the collective requirements cannot be satisfied, the verification
20 mechanism is configured to signal an error condition;
21 a binding mechanism that is configured to bind a first process to the first
22 resource pool, so that the first process has access to the plurality of different
23 computer system resources allocated to the first resource pool; and
24 an archiving mechanism that is configured to store a representation of the
25 resource allocation to non-volatile storage so that the resource allocation can be
26 reused after a machine failure;
27 wherein a first portion of resources allocated to the first resource pool are
28 for exclusive use of processes bound to the first resource pool and wherein a
29 second portion of resources allocated to the first resource pool are shared by
30 processes bound to other resource pools.

1 24. (Currently amended) The computer system apparatus of claim 23,
2 wherein the allocation mechanism is configured to:
3 partition each of the plurality of different computer system resources into
4 one or more partitions, wherein a first partition is associated with a first resource
5 and a second partition is associated with a second resource;
6 allocate the first partition to a single resource pool, so that only processes
7 associated with the single resource pool can access the first partition; and to

8 allocate the second partition to multiple resource pools so that processes
9 associated with the multiple resource pools can share the second partition.

1 25 (Canceled).

1 | 26. (Currently amended) The computer system-~~apparatus~~ of claim 23,
2 wherein the establishment mechanism is configured to select a file containing a
3 representation of the first resource pool from a plurality of possible files.

1 27 (Canceled).

1 | 28. (Currently amended) The computer system-~~apparatus~~ of claim 23,
2 wherein the archiving mechanism is configured to store a representation of each
3 of the one or more resource pools along with associated resources.

1 | 29. (Currently amended) The computer system-~~apparatus~~ of claim 23,
2 wherein the archiving mechanism is configured to store an Extensible Markup
3 Language (XML) representation of the resource allocation.

1 | 30. (Currently amended) The computer system-~~apparatus~~ of claim 23,
2 wherein the first resource pool is associated with a first project; and
3 wherein the first process is one of a plurality of processes associated with
4 the first project.

1 31 (Canceled).

1 | 32. (Currently amended) The computer system-apparatus of claim 23,
2 further comprising an adjustment mechanism that is configured to dynamically
3 adjust the resource allocation during system execution.

1 33 (Canceled).